

Equal 9 step grey scaling between $L^*_0aN=14.4$ and $L^*_0aW=125$, $Y_{0ref}=1.8$, normalisation: white W

$L^*_0aN=14.4$, $L^*_0aU=69.7$, $L^*_0aW=125$, $Y_{0aN}=1.8$, $Y_{0aU}=40.4$, $Y_{0aW}=180.0$, $C_{0aY}=Y_{0aW}; Y_{0aN}=100.0$
 $L^*_N=22.2$, $L^*_aU=70.7$, $L^*_aW=125.1$, $Y_{aN}=3.6$, $Y_{aU}=41.8$, $Y_{aW}=180.0$, $C_{aY}=Y_{aW}; Y_{aN}=50.5$

regularity index according to ISO/IEC 15775:2022, Annex G for 5 and 9 steps

$$g^* = 100 \left[\frac{\Delta L^*_{min}}{\Delta L^*_{max}} \right]$$

L*	$g^*_5 = 99, g^*_9 = 99$				$g^*_5 = 81, g^*_9 = 74$				$g^*_5 = 96, g^*_9 = 94$					
	n0.i	L*0a	L*0r	Y0a	Y0r	L*0a	ΔL^*_{ta}	L*tr	Yta	$(L^*tr)^{1/1.09}$	L*0a	ΔL^*_{la}	L*0a	ΔL^*_{la}
150	9	125.1	1.0	180.0	1.0	125.1	13.7	1.0	180.0	1.0	125.1	12.6		
	8	111.3	0.875	132.0	0.731	111.4	13.6	0.867	132.5	0.877	112.5	12.7		
100	7	97.4	0.75	93.5	0.514	97.8	13.6	0.734	94.3	0.753	99.7	12.9		
	6	83.6	0.625	63.3	0.345	84.2	13.5	0.602	64.4	0.628	86.8	13.0		
50	5	69.7	0.5	40.4	0.217	70.7	13.3	0.472	41.8	0.502	73.8	13.1		
	4	55.9	0.375	23.8	0.124	57.4	12.9	0.343	25.4	0.374	60.7	13.2		
	3	42.1	0.25	12.5	0.06	44.5	12.1	0.217	14.2	0.246	47.5	12.9		
	2	28.2	0.125	5.5	0.021	32.4	10.2	0.099	7.3	0.12	34.6	12.4		
0	1	14.4	0.0	1.8	0.0	22.2	0.0	3.6	0.0	0.0	22.2			

$\Delta L^*_{ta}=13.8$ (i=1,2,...,9)

normalisation: $Y_{aUW}=Y_{aW} \frac{Y_{0aU}+Y_{0ref}}{Y_{0aW}+Y_{0ref}}$

Equal 9 step grey scaling between $L^*_0aN=14.4$ and $L^*_0aW=125$, $Y_{0ref}=3.6$, normalisation: white W

$L^*_0aN=14.4$, $L^*_0aU=69.7$, $L^*_0aW=125.1$, $Y_{0aN}=1.8$, $Y_{0aU}=40.4$, $Y_{0aW}=180.0$, $C_{0aY}=Y_{0aW}; Y_{0aN}=100.0$
 $L^*_N=27.6$, $L^*_aU=71.6$, $L^*_aW=125.1$, $Y_{aN}=5.3$, $Y_{aU}=43.1$, $Y_{aW}=180.0$, $C_{aY}=Y_{aW}; Y_{aN}=34.0$

regularity index according to ISO/IEC 15775:2022, Annex G for 5 and 9 steps

$$g^* = 100 \left[\frac{\Delta L^*_{min}}{\Delta L^*_{max}} \right]$$

L*	$g^*_5 = 99, g^*_9 = 99$				$g^*_5 = 71, g^*_9 = 61$				$g^*_5 = 94, g^*_9 = 91$					
	n0.i	L*0a	L*0r	Y0a	Y0r	L*0a	ΔL^*_{ta}	L*tr	Yta	$(L^*tr)^{1/1.15}$	L*0a	ΔL^*_{la}	L*0a	ΔL^*_{la}
150	9	125.1	1.0	180.0	1.0	125.1	13.5	1.0	180.0	1.0	125.1	11.9		
	8	111.3	0.875	132.0	0.731	111.6	13.4	0.861	133.0	0.878	113.2	12.1		
100	7	97.4	0.75	93.5	0.514	98.1	13.3	0.723	95.2	0.754	101.1	12.2		
	6	83.6	0.625	63.3	0.345	84.8	13.1	0.586	65.6	0.629	88.9	12.4		
50	5	69.7	0.5	40.4	0.217	71.6	12.8	0.452	43.1	0.501	76.4	12.6		
	4	55.9	0.375	23.8	0.124	58.9	12.1	0.321	26.9	0.372	63.9	12.6		
	3	42.1	0.25	12.5	0.06	46.7	10.8	0.197	15.8	0.243	51.3	12.2		
	2	28.2	0.125	5.5	0.021	35.9	8.4	0.086	9.0	0.118	39.1	11.5		
0	1	14.4	0.0	1.8	0.0	27.6	0.0	5.3	0.0	0.0	27.6			

$\Delta L^*_{ta}=13.8$ (i=1,2,...,9)

normalisation: $Y_{aUW}=Y_{aW} \frac{Y_{0aU}+Y_{0ref}}{Y_{0aW}+Y_{0ref}}$

Equal 9 step grey scaling between $L^*_0aN=14.4$ and $L^*_0aW=125$, $Y_{0ref}=7.2$, normalisation: white W

$L^*_0aN=14.4$, $L^*_0aU=69.7$, $L^*_0aW=125.1$, $Y_{0aN}=1.8$, $Y_{0aU}=40.4$, $Y_{0aW}=180.0$, $C_{0aY}=Y_{0aW}; Y_{0aN}=100.0$
 $L^*_N=35.3$, $L^*_aU=73.4$, $L^*_aW=125.1$, $Y_{aN}=8.6$, $Y_{aU}=45.8$, $Y_{aW}=180.0$, $C_{aY}=Y_{aW}; Y_{aN}=20.8$

regularity index according to ISO/IEC 15775:2022, Annex G for 5 and 9 steps

$$g^* = 100 \left[\frac{\Delta L^*_{min}}{\Delta L^*_{max}} \right]$$

L*	$g^*_5 = 99, g^*_9 = 99$				$g^*_5 = 58, g^*_9 = 47$				$g^*_5 = 93, g^*_9 = 91$					
	n0.i	L*0a	L*0r	Y0a	Y0r	L*0a	ΔL^*_{ta}	L*tr	Yta	$(L^*tr)^{1/1.25}$	L*0a	ΔL^*_{la}	L*0a	ΔL^*_{la}
150	9	125.1	1.0	180.0	1.0	125.1	13.2	1.0	180.0	1.0	125.1	10.8		
	8	111.3	0.875	132.0	0.731	111.8	13.1	0.852	133.9	0.88	114.3	11.0		
100	7	97.4	0.75	93.5	0.514	98.7	12.9	0.707	96.8	0.757	103.3	11.3		
	6	83.6	0.625	63.3	0.345	85.9	12.5	0.563	67.8	0.632	92.0	11.5		
50	5	69.7	0.5	40.4	0.217	73.4	11.9	0.424	45.8	0.503	80.5	11.7		
	4	55.9	0.375	23.8	0.124	61.5	10.8	0.292	29.8	0.373	68.8	11.6		
	3	42.1	0.25	12.5	0.06	50.7	9.0	0.171	19.0	0.243	57.2	11.1		
	2	28.2	0.125	5.5	0.021	41.6	6.3	0.07	12.2	0.119	46.0	10.7		
0	1	14.4	0.0	1.8	0.0	35.3	0.0	8.6	0.0	0.0	35.3			

$\Delta L^*_{ta}=13.8$ (i=1,2,...,9)

normalisation: $Y_{aUW}=Y_{aW} \frac{Y_{0aU}+Y_{0ref}}{Y_{0aW}+Y_{0ref}}$

Equal 9 step grey scaling between $L^*_0aN=14.4$ and $L^*_0aW=125$, $Y_{0ref}=14.4$, normalisation: white W

$L^*_0aN=14.4$, $L^*_0aU=69.7$, $L^*_0aW=125.1$, $Y_{0aN}=1.8$, $Y_{0aU}=40.4$, $Y_{0aW}=180.0$, $C_{0aY}=Y_{0aW}; Y_{0aN}=100.0$
 $L^*_N=45.6$, $L^*_aU=76.5$, $L^*_aW=125.1$, $Y_{aN}=15.0$, $Y_{aU}=50.7$, $Y_{aW}=180.0$, $C_{aY}=Y_{aW}; Y_{aN}=12.0$

regularity index according to ISO/IEC 15775:2022, Annex G for 5 and 9 steps

$$g^* = 100 \left[\frac{\Delta L^*_{min}}{\Delta L^*_{max}} \right]$$

L*	$g^*_5 = 99, g^*_9 = 99$				$g^*_5 = 45, g^*_9 = 34$				$g^*_5 = 93, g^*_9 = 91$					
	n0.i	L*0a	L*0r	Y0a	Y0r	L*0a	ΔL^*_{ta}	L*tr	Yta	$(L^*tr)^{1/1.37}$	L*0a	ΔL^*_{la}	L*0a	ΔL^*_{la}
150	9	125.1	1.0	180.0	1.0	125.1	12.7	1.0	180.0	1.0	125.1	9.5		
	8	111.3	0.875	132.0	0.731	112.4	12.4	0.84	135.6	0.88	115.6	9.8		
100	7	97.4	0.75	93.5	0.514	99.9	12.0	0.684	99.9	0.757	105.8	10.0		
	6	83.6	0.625	63.3	0.345	87.9	11.4	0.532	71.9	0.631	95.8	10.3		
50	5	69.7	0.5	40.4	0.217	76.5	10.5	0.389	50.7	0.502	85.5	10.4		
	4	55.9	0.375	23.8	0.124	66.0	9.0	0.257	35.4	0.371	75.1	10.2		
	3	42.1	0.25	12.5	0.06	57.0	7.0	0.143	24.9	0.242	64.9	9.6		
	2	28.2	0.125	5.5	0.021	50.1	4.4	0.056	18.5	0.121	55.3	9.6		
0	1	14.4	0.0	1.8	0.0	45.6	0.0	15.0	0.0	0.0	45.6			

$\Delta L^*_{ta}=13.8$ (i=1,2,...,9)

normalisation: $Y_{aUW}=Y_{aW} \frac{Y_{0aU}+Y_{0ref}}{Y_{0aW}+Y_{0ref}}$

Test chart eee0; Equal 9 step grey scaling for four display reflections $Y_{ref}=1.8, 3.6, 7.2, 14.4$
lightness range between black L^*_N and white L^*_W : 14.4_125.1; normalisation: white W

see similar files of the whole series: <http://farbe.li.tu-berlin.de/eee/sum>
technical information: <http://farbe.li.tu-berlin.de> or <http://color.li.tu-berlin.de>

TUB registration: 2023/07/01-eee0/0010n1.txt /ps
application for evaluation and measurement of display or print output
TUB material: code=mat4ta